

**ABSTRACT**

An optical code reading system and method are provided for reading and decoding an optical code. The system includes a plurality of light sources, a color image sensor, a processor and a decoder. Each light source produces a unique wavelength/color of light to illuminate the optical code, such as a direct mark optical code. The image sensor detects the reflected light from the optical code and generates an integrated multi-colored image. The processor separates the integrated image into individual color channels, where each color channel includes data representative of the imaged optical code in one color. The processor analyzes the contrast for each color channel and determines which color channel has the optimum contrast. The data corresponding to the color channel having the optimum contrast is then decoded by a decoder.